

**Remarks**

Claims 9 to 17 are pending. Claims 9 to 17 are rejected. Claims 9, 10 and 13 are hereby amended. Claims 1 to 8 and 18 to 20 are subject to a restriction requirement and have been withdrawn from consideration. The amendments to claims 10 and 13 are only to clarify their meaning and are not in any way narrowing amendments. Support for the amendment to claim 10 is in the specification at, e.g., p. 10, lines 19-23. Support for the amendment to claim 13 is in the specification at, e.g., p. 20, lines 15-16.

**Restriction Requirement**

The Office Action states in part:

1. Restriction to one of the following inventions is required under 35 U.S.C. §121:
  - I. Claims 1 - 8 and 18 - 20, drawn to a composition and method using the composition, classified in class 204, subclass 471+.
  - II. Claims 9 - 17, drawn to a printed circuit, classified in class 428, subclass 457.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions of Groups I and II are related as process for making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP §806.05(f)). In the instant case the product as claimed can be made by a non-electrodepositing process.
3. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes are indicated as proper.

Applicants hereby elect Group II (i.e., claims 9-17) **with traverse**, and respectfully request reconsideration and withdrawal or modification of the restriction requirement.

Applicants submit the Groups I and II claims are so interrelated that a search of one group of claims will reveal art to the other. Moreover, the classification of Groups I and II claims in different classes and subclasses is not sufficient grounds to require restriction.

Were restriction to be effected between the claims in Groups I and II, a separate examination of the claims in Groups I and II would require substantial duplication of work on the part of the U.S. Patent and Trademark Office. Even though some additional consideration would be necessary, the scope of analysis of novelty of all the claims of Groups I and II would have to be as rigorous as when only the claims of Group II were being considered by themselves. Clearly, this

duplication of effort would not be warranted where these claims of different categories are so interrelated. Further, Applicants submit that for restriction to be effected between the claims in Groups I and II, it would place an undue burden by requiring payment of a separate filing fee for examination of the nonelected claims, as well as the added costs associated with prosecuting two applications and maintaining two patents.

## **Objections**

### **In the Specification**

The abstract of the disclosure is objected to because it is not written in a single paragraph.

Applicants have amended the Abstract of the present application to overcome the objection.

## **Rejections**

### **35 USC §103**

Claims 9 - 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Funaya et al. (US 6042682) in view of Himes et al. (US 6046886).

The Office Action states in part:

Funaya et al. discloses a supporting substrate, which is to be bonded with a semiconductor bare chip.

The supporting substrate is comprised of a substrate (1), a conductive thin film (2), an electrode pad (3) and a bump (4) (Fig. 2B). A sealing resin film (5) is formed onto the surface of the supporting substrate.

The sealing resin film comprises of an epoxy resin having a fluorene skeleton structure. The sealing resin film can be cured by activation energy ray such as UV, e-beams, etc. (col. 4, L 63 - 67)

The supporting substrate can be a flexible board (col. 11, L 43 - 45). The sealing resin can be a phenol novolak type epoxy resin, cresol novolak type epoxy resins (col. 5, L 8 - 11).

Funaya et al.'s sealing resin film has no voids after bonded with a semiconductor chip (col. 2, L 15 - 20).

Funaya et al. however does not teach that the sealing resin film is over the conductive bump (4).

Himes et al. teaches a flex circuit board interconnect comprised of a dielectric base layer (28), conductors (30) and a cover dielectric layer (32) (Fig. 2). Figure 2 of Himes et al. is a conventional flexible circuit structure.

The prior art teaches the present invention but are silent about the concentration of extractable ionic contaminants, the concentration of labile components and the bend radius.

In view of Funaya et al. and Himes et al.'s teachings, one skill in the art would use the sealing resin material as taught by Funaya et al. and use a cover dielectric in Himes et al. because Funaya et al.'s sealing resin gives a strong seal and contains no air bubbles or voids between components.

Furthermore, Funaya et al.'s sealing resin would inherently contain(s) the properties as claimed by the applicant since the epoxy resin disclosed by Funaya et al. meets the claimed invention (as in claim 12).

According to MPEP 2142, to establish a case of *prima facie* obviousness, three basic criteria must be met: 1) there must be some suggestion or motivation, either in the references or generally known to one skilled in the art, to modify or combine reference teachings, 2) there must be reasonable expectation of success, and 3) the prior art references must teach or suggest all the claim limitations. The ability to modify the method of the references is not sufficient. The reference(s) must provide a motivation or reason for making the changes. *Ex parte Chicago Rawhide Manufacturing Co.*, 226 USPQ 438 (PTO Bd. App. 1984).

Applicants have amended claim 9 to include the limitation that the insulating coating is deposited only on the plurality of conductive traces. Support for the amendment is in the specification at, e.g., p. 12, lines 2-4.

Applicants respectfully submit that the references cannot support a case of *prima facie* obviousness as to the claims because, among other possible reasons, the cited references do not provide a motivation or suggest for depositing the insulating coating only on the plurality of conductive traces. In addition, these references do not disclose all the elements of the present invention because they do not disclose depositing the insulating coating only on the plurality of conductive traces.

For these reasons, Applicant(s) submit that the cited references will not support a 103(a) rejection of the claims invention and request that the rejection be withdrawn.

In addition to the foregoing arguments, Applicant(s) submit that a dependent claim should be considered allowable when its parent claim is allowed. *In re McCairn*, 1012 USPQ 411 (CCPA 1954). Accordingly, provided the independent claims are allowed, all claims depending therefrom should also be allowed.

Based on the foregoing, it is submitted that the application is in condition for allowance. Withdrawal of the rejections under 35 U.S.C. 103(a) is requested. Examination and reconsideration of the claims are requested. Allowance of the claims at an early date is solicited.

This Amendment is believed to be timely submitted. It is believed that no fee is due; however, in the event a fee is required, please charge the fee to Deposit Account No. 13-3723.

The Examiner is invited to contact Applicant(s)' attorney if the Examiner believes any remaining questions or issues could be resolved.

Respectfully submitted,

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Date

By: Melanie Gover  
Melanie G. Gover, Reg. No.: 41,793  
Telephone No.: (512) 984-4308

Office of Intellectual Property Counsel  
3M Innovative Properties Company  
Facsimile No.: 651-736-3833